

REMARKS

Applicant's attorney is appreciative of the interview granted by Examiners Ward and Patel on April 7, 2009. At that interview, Applicant's representative pointed out the distinction between the invention and the claims of record, and the Examiners suggested amendments to the claims which would more distinctly claim the step of applying an ultrasonic pulse after welding the welded conductors in the decompressed chamber with simultaneous measurement of a characteristic magnitude of the decompressed chamber.

Claim 14 has now been amended generally in the manner discussed at the interview. Thus, the final step now recites that after welding the conductors, the compression chamber is decompressed, and further ultrasound is applied to the welded conductors within the decompressed chamber, with measurement of a characteristic magnitude of the compression chamber resulting from the application of the further ultrasound, to determine the weld quality. In reviewing the specification as a whole, it was determined that the term "simultaneous" might not be accurate in all situations, but that in the final step, the magnitude of the compression chamber which is measured is the magnitude *resulting from* the application of the further ultrasound. See paragraph [0043] of the published application.

Claims 14-17 stand rejected under 35 USC 103(a) over Wagenbach et al in view of Deutsch et al, while Claim 18 has been rejected under 35 USC 103(a) over Wagenbach et al in view of Deutsch et al and Steiner et al, Claims 19-22 and 25-28 have been rejected under 35 USC 103(a) over Wagenbach et al in view of Deutsch et al and Eder et al, Claim 23 has been rejected under 35 USC 103(a) over Wagenbach et al in view of Deutsch et al and Steiner et al and Claim 24 has been rejected

under 35 USC 103(a) over Wagenbach et al in view of Deutsch et al and Peter.

Wagenbach et al relates to a method for compaction and subsequent welding of electric conductors in which parameters determined during the welding process are compared to parameters to be derived from curves, and the weld is evaluated by comparison of the parameters determined during welding with the curves. Wagenbach et al clearly does not disclose or suggest releasing the pressure of the compaction chamber, then applying further ultrasound to the welded conductors and measuring the characteristic magnitude of the compression chamber resulting from the further application of ultrasound.

Deutsch et al has been cited in the Office action to show a subsequent application of ultrasound, but Deutsch et al does not relate to ultrasound welding, but rather to resistance welding in which the weld quality is checked by application of ultrasound. The Office action takes the position that "ultrasonic welding and resistance welding of Deutsch are similar since Deutsch discloses that the resistance welder has ultrasonic transducers for welding and testing (column 1, line 17)." The cited statement is found in the abstract of Deutsch et al, which appears to be rather confusing, since the ultrasonic transducers are not used for welding, only for testing. In fact, the first paragraph of the specification states that the invention is directed to "electric resistance spot, seam, and other types of pressure welds," all of which are electrical resistance welding methods. In comparison, ultrasonic welding is a far different method, and uses completely different equipment.

According to the Deutsch et al process, during a period when the workpieces are mechanically pressed between electrodes and before welding current is initiated, the workpiece is subjected to ultrasound to obtain a first

measured value. Then, the ultrasound is interrupted and the wires are welded by current flow, and subsequently, while the pressure of the electrodes against the workpiece is maintained, ultrasonic energy is again transmitted through the electrodes and the welding zone to measure the transmitted ultrasonic energy.

Deutsch et al does not release the pressure on the welded electrodes after the welding, followed by application of ultrasound. Moreover, the subsequent application of ultrasound is not used to measure the characteristic magnitude of the compression chamber resulting from the ultrasonic application to determine weld quality. Weld quality is measured in an entirely different manner, by measuring ultrasound received by a transducer before and after welding.

Hence, Deutsch et al does not disclose or suggest the steps of decompressing the welding chamber after ultrasound welding, applying a further ultrasound signal, and measuring the magnitude change in the welding chamber which results from the application of the further ultrasound signal. One or ordinary skill in the art cannot, therefore, arrive at the claimed invention based on the disclosures of Wagenbach et al and Deutsch et al.

The remaining references cited do not cure the defects of Wagenbach et al and Deutsch et al.

Withdrawal of these rejections is requested.

In view of the foregoing amendments and remarks, Applicant submits that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



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